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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,593	07/11/2003	Arthur Eugene McNair	VOCO-09-273	3686
26875 7590 03/30/2007 WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202			EXAMINER WOZNIAK, JAMES S	
			ART UNIT 2626	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/617,593

Applicant(s)

MCNAIR ET AL.

Examiner

James S. Wozniak

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-25 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 and 48-49 of copending Application No. 10/617,422. Although the conflicting claims are not identical, they are not patentably distinct from each other because both claimed inventions are directed to the same system/method for executing a multimodal software application utilizing input and output peripheral devices, workflow descriptions based on the software application, and interface components. Although App. No. 10/617,422 omits the prompt control of the presently claimed invention, the omission of such an element would be obvious to one of ordinary skill in the art because both systems essentially perform the same steps of providing input data, processing that data according to a workflow, and providing output data (*i.e., a prompt*) in response.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

3. **Claims 7, 10, and 22-25** are objected to because of the following informalities:

In Claim 7, line 2, "voice recognition system" should be changed to --speech recognition system-- in order to be consistent with the terminology used in the specification and claim 12.

In Claim 10, Line 2 and claim 22, line 7, the acronym "GUT" should be expanded upon (i.e., graphical user interface) in order to clarify its meaning in the claim.

Dependent claims 23-25 further limit an objected claim, and thus, are also object to due to minor informalities.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claims 9-25** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. More specifically, claims 9 and 22 recite a plurality of peripheral devices capable of outputting a prompt and controlling the prompt according to an input state of the same devices, which is not disclosed by the specification. Instead, the output prompt appears to be controlled based not on an input state of output devices, but on those states of a different plurality of peripheral devices (*i.e., multimodal input devices*) (*see specification, page 27 and the third limitation of claim 1*).

The dependent **claims 10-21 and 23-25** further limit rejected independent, and thus, are also directed to non-statutory subject matter.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claims 1-25** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 9, and 22 are drawn to a system, method, and program for executing a multimodal software application featuring a multimodal software application, dialog engine, and an interface component. In order for a claimed invention to be considered statutory under 35 U.S.C. 101, it must be useful and accomplish a practical application. That is, it must produce a “useful, concrete and tangible result” (*State Street, 149 F.3d at >1373-74<, 47 USPQ2d at 1601-02*). In this case, the final result is only an abstract prompt control signal generated within a computer system and not a tangible real-world output (*for example, a display that displays the generated prompt or a speaker for playing out an audio prompt, Specification, Page 12*). Moreover, even if such a tangible result were recited in the claimed invention, claim 1 would still be directed to non-statutory subject matter because the claimed dialog engine is not required to produce (*i.e., does not actively produce*) a tangible result since it is merely “configured” to do so.

Claim 22 is drawn to program “instructions” as recited in the preamble and as such is non-statutory subject matter. Furthermore, the claimed medium is not limited to a tangible

Art Unit: 2626

computer readable medium (*see Specification, Page 10*). See MPEP § 2106.IV.B.1.a. Data structures not claimed as encoded in computer readable media are descriptive material per se and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed tangible computer readable medium *encoded* with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Although the system in **claim 1** is directed to a seemingly patentable system for dialog execution, this claim is directed towards non-functional descriptive material (i.e., computer program elements) as evidenced by Pages 9-10 of the specification. The specification indicates that the currently claimed system is drawn to program routine elements. In claim 1, these program elements are not stored on a tangible computer readable medium encoded with a program that enables the program's functionality to be realized when executed by a computer or

claimed in combination with other hardware elements that enable the program's functionality to be realized (*i.e., display, speaker, speech recognizer, touch screen, etc.*). Thus, claim 1 is directed to non-statutory subject matter.

Although the process in **claim 9** is directed to a seemingly patentable process for dialog execution, this claim is directed towards non-functional descriptive material (*i.e., computer program description*) as evidenced by Claim 22. Claim 22 indicates that these steps are part of a computer program. In claim 9, this program description is not stored on a tangible computer readable medium encoded with a program that enables the program's functionality to be realized when executed by a computer, and thus, claim 9 is directed to non-statutory subject matter, for the same reasons as claim 22.

The dependent **claims 2-8, 10-21, and 23-25** further limit rejected independent, and thus, are also directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. **Claims 1-3, 7-9, 11-13, 15, and 19-20** are rejected under 35 U.S.C. 102(b) as being anticipated by Morin et al (*U.S. Patent: 5,748,841*).

With respect to **Claim 1**, Morin discloses:

Art Unit: 2626

The multimodal software application, wherein said multimodal software application is configured to receive first data input from a first set of peripheral devices and output second data to a second set of peripheral devices (*multimodal target software application capable of receiving data from a set of input devices and outputting data from a set of output devices, Col. 13, Lines 30-67; and various input and output devices, Col. 11, Line 40- Col. 12, Line 15*);

A dialog engine in communication with the multimodal software application, wherein said dialog engine is configured to execute a workflow description received from the multimodal software application and provide the first data to the multimodal software application (*dialog manager that executes dialog tasks in accordance with an application script and provides input data to an application, Col. 9, Line 1- Col. 10, Line 25*);

Said dialog engine further configured to control outputting of a prompt from the workflow description based on an input state of the first set of peripheral devices (*dialog manager utilizing context and history to monitor an input state, Col. 10, Lines 1-25 and generating request and other dialog prompts, Col. 9, Lines 1-57; and output devices, Col. 8, Lines 17-37*); and

A respective interface component associated with each peripheral device within said first and second sets; wherein each interface component is configured to provide the second data, if any, to the associated peripheral device and receive the first data, if any, from the associated peripheral device (*I/O device drivers that provide input output data to their associated devices, Col. 6, Lines 5-48; Col. 7, Lines 17-27; and Col. 8, Lines 17-37*).

With respect to **Claim 2**, Morin further discloses:

The control includes interrupting the prompt if the first data is received while the prompt is being output (*"talk over" feature, Col. 12, Lines 1-15*).

With respect to **Claim 3**, Morin further discloses:

Delaying outputting of the prompt if one of the first set of peripheral devices is receiving the first data (*dialog turns that require the dialog manager to wait for a complete user response before taking its turn, Col. 9, Lines 35-56*).

With respect to **Claim 7**, Morin further discloses:

The first set of peripheral devices includes one or more of a voice recognition system, a radio-frequency identifier scanner, a bar code scanner, a touch screen, a keypad, and a computer (*input devices, Col. 7, Lines 17-27*).

With respect to **Claim 8**, Morin further discloses:

The second set of peripheral devices includes one or more of a voice synthesis system, a display screen and a computer (*output devices, Col. 8, Lines 17-37*).

With respect to **Claim 9**, Morin discloses:

Executing a workflow description received from the multimodal application, said workflow description including a plurality of workflow objects (*application dialog script, which defines task operation sequences, executed by a dialog manager, Col. 9, Line 1- Col. 10, Line 25; and Col. 14, Lines 1-23*);

Outputting a prompt of a first workflow object via a plurality of peripheral devices, said prompt related to the multimodal application (outputting task requests or messages to a user, Col. 9, Lines 35-56; Col. 12, Lines 1-15); and

Controlling the outputting of the prompt according to an input state of the plurality of peripheral devices (*dialog manager utilizing context and history to monitor an input state, Col. 10, Lines 1-25 and generating request and other dialog prompts, Col. 9, Lines 1-57; and output devices, Col. 8, Lines 17-37*).

With respect to **Claim 11**, Morin discloses the “talk over” feature, as applied to Claim 2.

With respect to **Claim 12**, Morin further discloses:

The step of outputting includes outputting an audio prompt (*spoken messages, Col. 12, Lines 1-15*); and

The step of receiving includes receiving voice data from a speech recognition system (*speech recognizer, Col. 7, Lines 28-48*).

With respect to **Claim 13**, Morin further discloses:

The data is received from one of the plurality of peripheral devices (*input devices, Col. 7, Lines 17-48*).

With respect to **Claim 15**, Morin further discloses:

Performing the step of terminating if the data is received from a predetermined peripheral device; and omitting the step of terminating if the input is received from other than the predetermined device (*“talk over” feature that interrupts a spoken prompt in response to a speech input and would inherently omit prompt cancellation if any other type of input was received, Col. 12, Lines 1-15; and Col. 7, Lines 28-32*).

Claim 19 contains subject matter similar to Claim 3, and thus, is rejected for the same reasons.

With respect to **Claim 20**, Morin further discloses:

The step of delaying includes the steps of: delaying outputting the prompt to the one peripheral devices; and permitting outputting the prompt without delay to another of the plurality of peripheral devices (*simultaneous output of text and speech and canceling only speech messages using a "talk-over" feature, Col. 12, Lines 1-15*).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. **Claims 4-5 and 16-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morin et al in view of Gergic et al (*U.S. Patent Application Publication: 2002/0198719*).

With respect to **Claims 4-5 and 16-17**, Morin discloses the multimodal system and method featuring prompt control based on an input context and device drivers for processing input/output data, as applied to Claims 1 and 9. Although Morin discloses the ability to handle successive user responses (*Col. 12, Lines 41-54*) and request a user response to fill-in missing information (*Col. 9, Lines 35-56*), Morin does not specifically suggest processing a user input data directed to two prompts, which would result in an avoided subsequent prompt. Gergic, however, discloses the ability of a user to fill two fields of missing information with a single utterance in response to an initial dialog, which does not require the output of a subsequent dialog prompt (*Paragraph 0121*).

Morin and Gergic are analogous art because they are from a similar field of endeavor in interactive multimodal dialog systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morin with the ability of a user to fill two fields of missing information taught by Gergic in order to provide a means for supporting parallel activation of dialog objects (*Gergic, Paragraph 0104*) and allow for more efficient user/machine interaction.

With respect to **Claim 18**, Gergic further recites:

The data relates to the first workflow object and a plurality of other workflow objects (*filling more than one field, Paragraph 0121*).

12. **Claims 6 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morin et al in view of Hanle et al (*U.S. Patent: 5,012,511*).

With respect to **Claims 6 and 14**, Morin discloses the multimodal system and method featuring prompt control based on an input context and device drivers for processing input/output data, as applied to Claims 2 and 11. Morin does not teach the use of non-interruptible prompts, however Hanle discloses the use of such prompts in an interactive dialog system (*Col. 9, Lines 33-51*).

Morin and Hanle are analogous art because they are from a similar field of endeavor in interactive voice response systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morin with the non-interruptible prompts taught by Hanle in order to force the user to listen to important prompts, such as error prompts (*Hanle, Col. 9, Lines 50-51*).

13. **Claims 10, 22-23, and 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin et al in view of French-St. George et al (*U.S. Patent: 6,012,030*).

With respect to **Claims 10**, Morin discloses the multimodal system and method featuring prompt control based on an input context and device drivers for processing input/output data, as applied to Claim 9. Although Morin teaches the concept of speech control of computer applications (*Col. 13, Lines 61-67*), Morin does not explicitly disclose prompts relating to visual control of a GUI screen, however French-St. George discloses such prompts (*Col. 7, Line 37-Col. 8, Line 18*).

Morin and French-St. George are analogous art because they are from a similar field of endeavor in interactive multimodal dialog systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morin with the generation of prompts relating to visual control of a GUI screen as taught by French-St. George in order to provide a means for dynamically adjusting audio prompts based on a user's interaction (*French-St. George, Col. 3, Line 64- Col. 4, Line 2*).

Claim 22 contains subject matter similar to Claims 9 and 10, and thus, is rejected for the same reasons. Morin further discloses method implementation at a server computer (*Col. 5, Lines 43-56*), which would inherently require some type of stored instruction set for method execution.

With respect to **Claim 23**, Morin discloses the "talk over" feature, as applied to Claim 2.

Claim 25 contains subject matter similar to Claim 3, and thus, is rejected for the same reasons.

14. **Claim 21** is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin et al in view of Setlur et al (*U.S. Patent: 5,956,675*).

With respect to **Claim 21**, Morin discloses the multimodal system and method featuring prompt control based on an input context and device drivers for processing input/output data, as applied to Claim 19. Morin does not teach analyzing if a user's input relates to a prompt to identify a valid barge-in attempt, however, Setlur recites executing a barge-in attempt only when a speech input is related to an expected aural prompt response (*Col. 5, Lines 1-23*).

Morin and Setlur are analogous art because they are from a similar field of endeavor in interactive voice response systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morin with the barge-in identification means taught by Setlur in order to provide a means for improved barge-in reliability (*Setlur, Col. 5, Lines 18-20*).

15. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over Morin et al in view of French-St George et al and further in view of Gergic et al (*U.S. Patent Application Publication: 2002/0198719*).

With respect to **Claim 24**, Morin in view of French-St. George discloses the multimodal system and method featuring prompt control based on an input context and device drivers for processing input/output data, as applied to Claim 22. Although Morin discloses the ability to handle successive user responses (*Col. 12, Lines 41-54*) and request a user response to fill-in missing information (*Col. 9, Lines 35-56*), Morin does not specifically suggest processing a user

Art Unit: 2626

input data directed to two prompts, which would result in an avoided subsequent prompt.

Gergic, however, discloses the ability of a user to fill two fields of missing information with a single utterance in response to an initial dialog, which does not require the output of a subsequent dialog prompt (*Paragraph 0121*).

Morin, French-St. George, and Gergic are analogous art because they are from a similar field of endeavor in interactive multimodal dialog systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Morin in view of French-St. George with the ability of a user to fill two fields of missing information taught by Gergic in order to provide a means for supporting parallel activation of dialog objects (*Gergic, Paragraph 0104*) and allow for more efficient user/machine interaction.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Abella et al (*U.S. Patent: 6,044,347*)- discloses an object-oriented dialog manager.

Marx et al (*U.S. Patent: 6,173,266*)- discloses an interactive dialog design system.

Pickering (*U.S. Patent: 6,496,799*)- discloses a means for determining an end-of-utterance for issuing a voice prompt.

Ferrans et al (*U.S. Patent: 7,003,464*)- teaches a dialog enabler for a voice browser.

Guenther et al (*U.S. Patent: 7,146,323*)- teaches a multimodal web-based application form that can be filled based on user responses in a dialog.

Bers et al ("*Designing Conversational Interfaces with Multimodal Interaction*," 1998)-discloses the use of an interactive dialog and prompt control in a GUI-based application.

Wang- (*SALT: A spoken Language Interface for Web-based Multimodal Dialog Systems*," 2002)- teaches a method for generating a prompt dialog from a GUI.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
3/22/2007

V. PAUL HARPER
PRIMARY PATENT EXAMINER

